

AMENDMENTS TO THE CLAIMS

Please cancel claims 26-50 without prejudice, and add new claims 51-67 as follows

1-50 (Cancelled)

51. (New) A capsule, comprising:

a diameter of less than 100 μm , and

an envelope comprising at least three polyelectrolyte layers and containing only one dye with at least one of the at least three polyelectrolyte layers being labeled with the only dye, and the only dye is covalently linked to a sensitive material with the sensitive material adapted to react to changed environmental conditions by an increase in volume or a decrease in volume, wherein the dye has a sufficient concentration for the dye to form dimers, aggregates or excimers, and wherein the dimers, aggregates or excimers self-quench fluorescence or form a new emission band.

52. (New) The capsule of claim 51, wherein the sensitive material comprises a material that swells or shrinks when its environmental conditions change.

53. (New) The capsule of claim 52, wherein the environmental conditions are selected from the group consisting of a pH level, a salt concentration, a temperature, an adsorbed component, an enzyme, a concentration of a substance, a physical parameter, a component affecting the solvent, a component reactive with the sensitive material, and a miscible solvent constituent.

54. (New) The capsule of claim 51, wherein the sufficient concentration of the dye comprises a ratio of mass of sensitive material to the mass of dye of less than 500:1.

55. (New) The capsule of claim 51, wherein the at least one of the at least three polyelectrolyte layers being labeled with the only one dye having a thickness of from 1 nm to 1 μm .

56. (New) The capsule of claim 51, wherein the polyelectrolyte layer labeled with the dye comprises an organic polyelectrolyte layer.

57. (New) The capsule of claim 51, wherein the dye comprises a fluorescent dye or an emitting nanoparticle.

58. (New) The capsule of claim 51, wherein the capsule comprises a hollow interior space delimited by the envelope and macromolecules are disposed in the hollow internal space.

59. (New) The capsule of claim 51, wherein the capsule comprises a modified core which possesses sensory or coordinating properties.

60. (New) The capsule of claim 51, wherein the envelope comprises a permeable material.

61. (New) The capsule of claim 51, wherein the capsule comprises a solid core surrounded by the envelope.

62. (New) The capsule of claim 51, wherein the capsule has an average diameter of less than 10 μm .

63. (New) The capsule of claim 51, wherein the capsule is formed by a layer-by-layer method.

64. (New) The capsule of claim 51, wherein the capsule is used for labeling or coding industrial products, particles, cells, tissues, organs or organisms of biological origin.

65. (New) The capsule of claim 51, wherein the capsule is used as a library of reporter particles or coded color particles for identifying substances and/or labeling processes.

66. (New) The capsule of claim 51, wherein the capsule is used in medical diagnosis, combinatorial chemistry, genomics and proteomics, biology and biotechnology and industry.

67. (New) The capsule of claim 62, wherein the capsule has an average diameter of less than 1 μm .